

CLAIMS

1. A video tape recorder for sequentially and diagonally forming recording tracks on a magnetic tape and recording  
5 compressed video data, compressed audio data, and data relating to the video data and the audio data on the magnetic tape, the video tape recorder is characterized by comprising:

pack-unit generating means for blocking the video data  
10 in units of a predetermined number of blocks to generate a pack unit including a combination of the video data in the block, the corresponding audio data, and the related data;

management-information generating means for generating management information serving as a reproduction reference  
15 when the video data is reproduced from the magnetic tape, from time management information when the video data is decompressed and output;

delay means for delaying data output from the pack-unit generating means;

20 a recording system for recording the data output from the pack-unit generating means on the magnetic tape along with the management information serving as the reproduction reference; and

25 controlling means for varying a delay time generated in the delay means,

wherein the controlling means varies the delay time generated in the delay means such that the recording position of the head of each pack unit is set to a position having a predetermined relationship with the recording 5 position determined by the management information serving as the corresponding reproduction reference.

2. The video tape recorder according to Claim 1, characterized in that the head of each pack unit, which is 10 the position having the predetermined relationship, precedes the recording position determined by the management information serving as the reproduction reference corresponding to the time management information by an amount given by adding a predetermined preceding amount to 15 the delay time in the decoding at the head of the pack unit.

3. The video tape recorder according to Claim 2, characterized in that the predetermined preceding amount has, at least, a value corresponding to an average amount of data, 20 other than the video data, in the pack unit.

4. The video tape recorder according to Claim 1, characterized in that the recording system inserts NULL data of, at least, an amount corresponding to the delay time 25 generated in the delay means into the data output from the

pack-unit generating means.

5. The video tape recorder according to Claim 4,  
characterized in that the controlling means sets the head of  
5 the corresponding pack unit to the head of the recording  
track by inserting the NULL data.

6. The video tape recorder according to Claim 1,  
characterized in that the controlling means sets the trail  
10 of the pack unit to a position preceding the recording  
position determined by the management information serving as  
the corresponding reproduction reference.

7. The video tape recorder according to Claim 2,  
15 characterized by further comprising:

pack-unit reproduction means for processing a  
reproduction signal supplied from the magnetic tape to  
reproduce the data in the pack unit;  
data separating means for separating the video data  
20 from the data in the pack unit reproduced by the pack-unit  
reproduction means;

storing means for temporarily storing the video data  
output from the data separating means and outputting the  
stored video data; and

25 data decompressing means for decompressing the data

output from the storing means and outputting the decompressed data,

wherein the storing means has a capacity more than the amount corresponding to the preceding amount.

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8. A video tape recorder for sequentially and diagonally forming recording tracks on a magnetic tape and recording compressed video data, compressed audio data, and data relating to the video data and the audio data on the 10 magnetic tape, the video tape recorder is characterized by comprising:

pack-unit generating means for blocking the video data in units of a predetermined number of blocks to generate a pack unit including a combination of the video data in the 15 block, the corresponding audio data, and the related data;

management-information generating means for generating management information serving as a reproduction reference when the video data is reproduced from the magnetic tape, from time management information when the video data is 20 decompressed and output; and

a recording system for recording the data in the pack unit on the magnetic tape along with the management information serving as the reproduction reference,

wherein the management-information generating means 25 generates the management information serving as the

reproduction reference such that the management information serving as the reproduction reference is varied in proportion to a clock serving as a processing reference when the video data is decompressed.

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9. A recording method of sequentially and diagonally forming recording tracks on a magnetic tape and recording compressed video data, compressed audio data, and data relating to the video data and the audio data on the 10 magnetic tape, the recording method is characterized by comprising:

a pack-unit generating step of blocking the video data in units of a predetermined number of blocks to generate a pack unit including a combination of the video data in the 15 block, the corresponding audio data, and the related data;

a management-information generating step of generating management information serving as a reproduction reference when the video data is reproduced from the magnetic tape, from time management information when the video data is 20 decompressed and output;

a delay step of delaying the pack-unit;

a recording step of recording the pack unit on the magnetic tape along with the management information serving as the a reproduction reference; and

25 a controlling step of varying a delay time generated in

the delay step,

wherein the controlling step varies the delay time such that the recording position of the head of each pack unit is set to a position having a predetermined relationship with 5 the recording position determined by the management information serving as the corresponding reproduction reference.

10. A recording method of sequentially and diagonally forming recording tracks on a magnetic tape and recording compressed video data, compressed audio data, and data relating to the video data and the audio data on the magnetic tape, the recording method is characterized by comprising:

15 a pack-unit generating step of blocking the video data in units of a predetermined number of blocks to generate a pack unit including a combination of the video data in the block, the corresponding audio data, and the related data;

20 a management-information generating step of generating management information serving as a reproduction reference when the video data is reproduced from the magnetic tape, from time management information when the video data is decompressed and output; and

25 a recording step of recording the data in the pack unit on the magnetic tape along with the management information

serving as the reproduction reference,  
wherein the management-information generating step  
generates the management information serving as the  
reproduction reference such that the management information  
serving as the reproduction reference is varied in  
proportion to a clock serving as a processing reference when  
5 the video data is decompressed.